

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. All claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.114 and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the application prior to entry under 37 CFR 1.114. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action after the filing of a request for continued examination and the submission under 37 CFR 1.114. See MPEP § 706.07(b).
Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Response to Arguments

2. Applicant's arguments filed 5/10/2010 have been fully considered but they are not persuasive.

3. Applicant argues that Willis does not explicitly teach at times providing video frames of a performance at a slower input rate and at other times providing video frames of the performance at a faster input rate.

In response, the examiner respectfully disagrees. Willis teaches (see e.g., column 2, lines 41-51) an input video signal that changes between 480p and 720p. As written, the claim does not specify when exactly the "at times" and "at other times" exist or how they are defined; therefore, because Willis discloses a 480p input video signal "at times," and also a 720p input video signal "at other times," the examiner maintains Willis reads on the limitations of the claim. While it is true that 480p and 720p refer only to the resolution of each individual frame, "input rate" recited in claim 1 does not specifically refer to input frame rate. It could be interpreted as a rate at which a frame having a given resolution is input.

4. Applicant argues that Gryskiewicz does not explicitly teach combining the frames received at the higher input rate into combined frames at the slower frame rate.

5. In response, the examiner respectfully disagrees. Gryskiewicz teaches environments exist where an interlaced video signal may be combined with a progressively scanned video signal. For example, a receiver may wish to add a progressive signal, such as a graphics overlay, to a video signal, such as a television program. The video signal may be combined with the graphics overlay to produce a new signal suitable for viewing in column 1 and lines 53-59. Gryskiweicz further teaches an interlaced video data stream typically transmits at 60 fields/second and a

progressive data stream typically transmits at 60 frames/second, which is twice the rate of the interlaced video data stream in column 2 and lines 1-4.

6. Applicant argues that the combination of Grysiewicz, and Oshima does not explicitly teach a transmitter to transmit the selected frame rate to the video source to provide frames at an average rate depending on the selection.

In response, the examiner respectfully disagrees. Grysiewicz teaches control block (108) of the system (100) which subsequently sends synchronization signals, field information, and timing information to the receiver (150). The purpose of this control block (108) is to coordinate transmission between transmitter (106) and (114) (see, e.g., column 3, lines 54-65). Because this control block is ultimately responsible for the synchronization and timing of signals to the receiver (150), it therefore must control the transmission of a frame rate in order to provide frames at an average rate depending on a selection. The teachings of Oshima were combined with Grysiewicz because the latter reference fails to disclose a user input device which allows for the selection of a frame rate and a corresponding display scan mode. Oshima discloses (see, e.g., previously cited column 7, lines 1-12) a user input device (19) which allows a user to select a stereoscopic video output. The stereoscopic video output (also referred to in the reference as "3D video") has a rate of either 60fields/sec (with flicker) or 120fields/sec (without flicker). Because the selection of stereoscopic video output ("display scan mode") corresponds to a changing of frame rate ("frame rate"), and this selection is provided by user input (19), the examiner maintains that the combination of

Gryskiewicz and Oshima does in fact read on the limitations of the claim, and therefore the original rejection stands.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-4 and 7-8 are rejected under 35 U.S.C. 102(e) as being anticipated by Willis (US Patent 7,106,380), hereinafter referred to as Willis.

Regarding **claim 1**, Willis discloses a frame rate multiplier for liquid crystal display. Further, Willis discloses receiving an input video signal is speeded up by a multiple n of f_{in} , wherein the frame rate changes in order to suppress flicker, which reads on the claimed, “a method comprising: at times providing video frames of a performance at a slower input rate; at other times providing video frames of the performance at a faster input rate; switching a video display to display frames in first display scan mode when receiving frames at the slower input rate; and switching the video display to display frames in a second display scan mode when receiving frames at the faster input rate, the second display scan mode being different than the first display scan mode,” as disclosed at column 2, line 41 through column 3, line 8.

Regarding **claim 2**, the limitations of the claim are rejected in view of the explanation set forth in claim 1 above.

Regarding **claim 3**, the limitations of the claim are rejected in view of the explanation set forth in claim 1 above.

Regarding **claim 4**, the limitations of the claim are rejected in view of the explanation set forth in claim 1 above.

Regarding **claim 7**, the limitations of the claim are rejected in view of the explanation set forth in claim 1 above.

Regarding **claim 8**, the limitations of the claim are rejected in view of the explanation set forth in claim 1 above.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 16, and 20-27 are rejected under 35 U.S.C. 102(b) as being anticipated by Grysiewicz et al (US Patent 6,392,712), hereinafter referred to as Grysiewicz.

Regarding **claim 16**, Grysiewicz discloses synchronizing interlaced and progressive video signals. Further, Grysiewicz discloses a combined interlaced video signal with a progressively scanned video signal, which reads on the claimed, "at times providing video frames from a video program source at a slower input rate; displaying the frames received at the slower input rate, at other times providing video frames from

the video program source at a higher input rate; combining the frames received at the higher input rate into combined frames at the slower frame rate; and displaying the combined frames at the slower frame rate," as disclosed at column 1, lines 53-59.

Regarding **claim 20**, Grysiewicz discloses everything claimed as applied above (see claim 16). Further, Grysiewicz discloses combining fields (124a) and (124b) into a progressive stream and then converting into interlaced form using receiver (150), which reads on the claimed, "wherein multiple frames with a progressive scan format are combined by dropping lines of each frame to form a combined frame with an interlaced format," as disclosed at column 5, lines 13-20, lines 45-50; column 6, lines 43-67; and exhibited in figure 4.

Regarding **claim 21**, the limitations of the claim are rejected in view of the explanation set forth in claim 20 above.

Regarding **claim 22**, Grysiewicz discloses everything claimed as applied above (see claim 16). Further, Grysiewicz discloses interlaced video data streams (182) and (184) which are combined at mixer (156), which reads on the claimed, "wherein multiple frames with an interlaced format are combined by dropping one or more fields of each frame to form a combined frame with an interlaced format," as disclosed at column 7, lines 1-8; column 8, lines 38-43; column 9, lines 3-10; and exhibited in figure 4.

Regarding **claim 23**, the limitations of the claim are rejected in view of the explanation set forth in claim 22 above.

Regarding **claim 24**, the limitations of the claim are rejected in view of the explanation set forth in claim 22 above.

Regarding **claim 25**, the limitations of the claim are rejected in view of the explanation set forth in claim 22 above.

Regarding **claim 26**, Grysiewicz discloses everything claimed as applied above (see claim 16). Further, the limitations of the claim are rejected in view of the explanation set forth in claim 16 above.

Regarding **claim 27**, Grysiewicz discloses synchronizing interlaced and progressive video signals. Further, Grysiewicz discloses a television screen in which separate progressively and interlaced scanned signals may be overlayed to produce a new signal suitable for viewing, which reads on the claimed, "a display device (132) having multiple fixed predetermined display scan modes with corresponding display rates that are independent of the average frame input rate and selectable at least between: a first display scan mode and a second display scan mode that is substantially different than the first display scan mode," as disclosed at column 1, line 48 through column 2, line 11;

receiver (150) which can receive progressive video signals (122) and (130), which reads on the claimed, "an input (122) for video frames of a video program from a video program source with a predetermined standard average input rate that is selectable at least between: a slower average input rate and a faster average input rate that is substantially different than the slower input rate," as exhibited in figure 1; and,

software program (300) which uses control logic to control the display of the video frames, which reads on the claimed, "means (136) for selecting the first display scan mode when receiving frames from the video program source at the slower input

rate and for selecting the second display scan mode when receiving frames from the video program source at the faster input rate," as disclosed at column 9, lines 59-67 and exhibited in figures 1 and 4.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 5-6 and 9-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Willis (US Patent 7,106,380), hereinafter referred to as Willis, in view of Duruoz et al (US Patent 6,658,056), hereinafter referred to as Duruoz.

Regarding **claim 5**, Willis discloses everything claimed as applied above (see claim 1). However, Willis fails to disclose repeating the display of frames received at the slower input rate to provide a required frame rate for the first display scan mode. The examiner maintains it was well known to include the missing limitations, as taught by Duruoz.

In a similar field of endeavor, Duruoz discloses a digital video decoding, buffering, and frame-rate converting method and apparatus. Further, Duruoz discloses a 3-2 pull down by which three fields are generated from two fields of a frame of the original picture by displaying one of the fields twice, which reads on the claimed,

"repeating the display of frames received at the slower input rate to provide a required frame rate for the first display scan mode," as disclosed at column 5, lines 1-21.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the frame rate multiplier for liquid crystal display of Willis to include a 3-2 pull down by which three fields are generated from two fields of a frame of the original picture by displaying one of the fields twice, as taught by Duruoz, for the purpose of eliminating flicker in multiple display scan modes.

Regarding **claim 6**, Willis discloses everything claimed as applied above (see claim 1). However, Willis fails to disclose dropping some of the frames received at the higher input rate to provide a required frame rate for the second display scan mode. The examiner maintains it was well known to include the missing limitations, as taught by Duruoz.

In a similar field of endeavor, Duruoz discloses a digital video decoding, buffering, and frame-rate converting method and apparatus. Further, Duruoz discloses implementing frame-skipping required in audio-visual synchronization during a trick-play operation, which reads on the claimed, "dropping some of the frames received at the faster input rate to provide a required frame rate for the second display scan mode," as disclosed at column 5, line 66 through column 6, line 9.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the frame rate multiplier for liquid crystal display of Willis to include implementing frame-skipping required in audio-visual synchronization

during a trick-play operation, as taught by Duruoz, for the purpose of eliminating flicker in multiple display scan modes.

Regarding **claim 9**, Willis discloses everything claimed as applied above (see claim 1). However, Willis fails to disclose the method further comprises receiving a user input command to change the input rate; and changing the input rate in response to the user input command to change the input rate. The examiner maintains that it was well known in the art to include the missing limitations, as taught by Duruoz.

In a similar field of endeavor, Duruoz discloses a digital video decoding, buffering, and frame-rate converting method and apparatus. Further, Duruoz discloses control logic (80) specifying which fields are repeated or skipped according to commands such as trick play mode commands, which reads on the claimed, "the method further comprises receiving a user input command to change the input rate; and changing the input rate in response to the user input command to change the input rate," as disclosed at column 16, lines 13-45.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the frame rate multiplier for liquid crystal display of Willis to include control logic (80) specifying which fields are repeated or skipped according to commands such as trick play mode commands, as taught by Duruoz, for the purpose of eliminating flicker in multiple display scan modes.

Regarding **claim 10**, the limitations of the claim are rejected in view of the explanation set forth in claim 9 above.

Regarding **claim 11**, Willis discloses everything claimed as applied above (see claim 1). However, Willis fails to disclose wherein the received frames are provided by a medium player that provides video frames at a controllable average input rate. The examiner maintains it was well known in the art to include the missing limitations, as taught by Duruoz.

In a similar field of endeavor, Duruoz discloses a digital video decoding, buffering, and frame-rate converting method and apparatus. Further, Duruoz discloses audio and video presentation system (30) with a program signal input (32) which may be in the form of an antenna, a cable, CD-ROM or other medium through which a digital input signal is received, which reads on he claimed, "wherein the received frames are provided by a medium player that provides video frames at a controllable average input rate," as disclosed at column 8, lines 8-14.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the frame rate multiplier for liquid crystal display of Willis to include audio and video presentation system (30) with a program signal input (32) which may be in the form of an antenna, a cable, CD-ROM or other medium through which a digital input signal is received, as taught by Duruoz, for the purpose of eliminating flicker in multiple display scan modes.

Regarding **claim 12**, the limitations of the claim are rejected in view of the explanation set forth in claim 11 above.

Regarding **claim 13**, Willis discloses everything claimed as applied above (see claim 11). However, Willis fails to disclose wherein the medium player includes user

input apparatus for providing a command to change the average input rate. The examiner maintains it was well known in the art to include the missing limitations, as taught by Duruoz.

In a similar field of endeavor, Duruoz discloses a digital video decoding, buffering, and frame-rate converting method and apparatus. Further, Duruoz discloses control input device (33), which reads on he claimed, "wherein the medium player includes user input apparatus for providing a command to change the average input rate," as disclosed at column 8, lines 8-25.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the frame rate multiplier for liquid crystal display of Willis to include control input device (33), as taught by Duruoz, for the purpose of providing a user with the ability to affect trick-play modes.

Regarding **claim 14**, Willis discloses everything claimed as applied above (see claim 1). Further, the limitations of the claim are rejected in view of the explanation set forth in claim 1 above except for wherein the display is a CRT. The examiner maintains that it was well known in the art to include the missing limitations, as taught by Duruoz.

In a similar field of endeavor, Duruoz discloses a digital video decoding, buffering, and frame-rate converting method and apparatus. Further, Duruoz discloses video presentation subsystem (34) which reads on he claimed, "wherein the display is a CRT," as disclosed at column 8, line 16 and exhibited in figure 1.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the frame rate multiplier for liquid crystal display

of Willis to include video presentation subsystem (34), as taught by Duruoz, for the purpose of displaying a selected video to a user.

Regarding **claim 15**, Willis discloses everything claimed as applied above (see claim 1). Further, the limitations of the claim are rejected in view of the explanation set forth in claim 14 above.

Claims 17-19, and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gryskiewicz et al (US Patent 6,392,712), hereinafter referred to as Gryskiewicz, in view of Oshima et al (US Patent 6,574,423), hereinafter referred to as Oshima.

Regarding **claim 17**, Gryskiewicz discloses everything claimed as applied above (see claim 16). However, Gryskiewicz fails to disclose wherein multiple frames with a progressive scan format are combined by combining some of the lines of each frame together to form a combined frame with a progressive scan format. The examiner maintains it was well known in the art to include the missing limitations, as taught by Oshima.

In a similar field of endeavor, Oshima discloses a high-resolution optical disk for recording stereoscopic video, optical disk reproducing device, and optical disk recording device. Further, Oshima discloses utilizing a progressive scan signal to generate odd interlace signals (79a) and (79b) and even interlace signals (80a) and (80b) and then combining them to obtain progressive signals, which reads on the claimed, "wherein multiple frames with a progressive scan format are combined by combining some of the

lines of each frame together to form a combined frame with a progressive scan format," as disclosed at column 11, lines 16-67 and exhibited in figures 20-22.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the synchronizing interlaced and progressive video signals of Gryskiewicz to include utilizing a progressive scan signal to generate odd interlace signals (79a) and (79b) and even interlace signals (80a) and (80b) and then combining them to obtain progressive signals, as taught by Oshima, for the purpose of eliminating flicker in multiple display scan modes.

Regarding **claim 18**, the limitations of the claim are rejected in view of the explanation set forth in claim 17 above.

Regarding **claim 19**, the limitations of the claim are rejected in view of the explanation set forth in claim 18 above.

Regarding **claim 40**, Gryskiewicz discloses synchronizing interlaced and progressive video signals. Further, Gryskiewicz discloses a television screen which can play NTSC or PAL video frames, which reads on the claimed, "a video display for displaying video frames from a video source at one of a multitude of different predetermined display scan rates," as disclosed at column 1, lines 38-67; and,

receiver (150) transmits video to an analog display, which reads on the claimed, "a transmitter to transmit the selected frame rate to the video source to provide frames at an average rate depending on the selection," as disclosed at column 8, lines 59-65 (wherein the act of transmitting video implies there is some sort of transmitter involved).

However, Grysiewicz fails to disclose a user input device for selecting a frame rate and a corresponding display scan mode of the video display from among multiple different predetermined display scan modes, the video frame display rate of the video display depending on the display scan mode. The examiner maintains it was well known in the art to include the missing limitations, as taught by Oshima.

In a similar field of endeavor, Oshima discloses a high-resolution optical disk for recording stereoscopic video, optical disk reproducing device, and optical disk recording device. Further, Oshima discloses a viewer instructing a stereoscopic video output to be processed via input unit (19), which reads on the claimed, "a user input device for selecting a frame rate and a corresponding display scan mode of the video display from among multiple different predetermined display scan modes, the video frame display rate of the video display depending on the display scan mode," as disclosed at column 7, lines 1-12.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the synchronizing interlaced and progressive video signals of Grysiewicz to include a viewer instructing a stereoscopic video output to be processed via input unit (19), as taught by Oshima, for the purpose of providing a user with the ability to affect trick-play modes.

Claims 28-30, and 33-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grysiewicz et al (US Patent 6,392,712), hereinafter referred to as Grysiewicz, in view of Willis (US Patent 7,106,380), hereinafter referred to as Willis.

Regarding **claims 28-30**, the examiner maintains they are the corresponding apparatus to the method of claims 2-4, respectively, and are therefore rejected in view of the explanation set forth in claims 2-4 above.

Regarding **claim 33**, the examiner maintains the claim is the corresponding apparatus to the method of claim 7 and is therefore rejected in view of the explanation set forth in claim 7 above.

Regarding **claims 34**, the examiner maintains it is the corresponding apparatus to the method of claim 8, and is therefore rejected in view of the explanation set forth in claim 8 above.

Claims 31-32, and 35-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gryskiewicz et al (US Patent 6,392,712), hereinafter referred to as Gryskiewicz, in view of Willis (US Patent 7,106,380), hereinafter referred to as Willis, in view of Duruoz et al (US Patent 6,658,056), hereinafter referred to as Duruoz.

Regarding **claims 31-32 and 35-39**, the examiner maintains they are the corresponding apparatus to the method of claims 5-6 and 9-13, respectively, and are therefore rejected in view of the explanation set forth in claims 5-6 and 9-13 above.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TAT CHI CHIO whose telephone number is (571)272-9563. The examiner can normally be reached on Monday - Thursday 9:00 AM-5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Vaughn can be reached on 571-272-3922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/T. C. C./
Examiner, Art Unit 2481
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